WHAT IS CLAIMED IS:

1. A method of testing drug sensitivity of cells with respect to a drug, the method comprising the steps of:

(a) preparing a suspension of the cells in a liquid;

(b) exposing a portion of the cells to the drug;

(c) adding at least one substance capable of imparting a measurable degree of fluorescence to the cells in said suspension;

(d) causing the cells to reside individually in defined locations, such that each individual cell corresponds to exactly one of said defined locations, and such that said defined locations can be individually accessed by an assay device;

(e) assaying by means of said assay device at least a portion of the cells in said defined locations at least one time as a means of determining the drug sensitivity thereof.

2. The method of claim 1, wherein the drug is encapsulated in any item selected from the group consisting of a virus, a micelle and a liposome.

3. The method of claim 2, wherein the drug is a nucleic acid.

4. The method of claim 1, wherein the cells are incubated in culture dishes and harvested thereafter.

5. The method of claim 4, wherein cells are harvested with a proteolytic enzyme.

6. The method of claim 5, wherein said proteolytic enzyme is trypsin.

7. The method of claim 1, wherein the cells are washed at least once.

8. The method of claim 1, wherein cells are incubated with said substance capable of imparting a measurable degree of fluorescence.

9. The method of claim 8, wherein said substance capable of imparting a measurable degree of fluorescence is selected from the group consisting of:

(a) a substance that differentially stains living cells;

(b) a precursor of fluorescent substance that differentially stains living cells; and

(c) a fluorophore that stains nucleic acids.

10. The method of ~~claim~~ 1, further including the step of:

(f) reporting results from said assaying.

11. The method of claim 10, further including the step of:

(g) processing said results to give at least one item selected from the group consisting of:

(i) a histogram of number of cells versus fluorescence intensity;

(ii) a histogram of number of cells versus fluorescence polarization;

(iii) a histogram of fluorescence intensity versus time;

(iv) a histogram of fluorescence polarization versus time;

(v) a scatter plot of fluorescence intensity versus fluorescence polarization;

(vi) a scatter plot of fluorescence polarization versus fluorescence intensity;

(vii) average fluorescence intensity;

(viii) standard deviation of fluorescence intensity;

(ix) standard error of fluorescence intensity;

(x) average fluorescence polarization;

(xi) standard deviation of fluorescence polarization; and

(xii) standard error of fluorescence polarization.

12. The method of claim 11, wherein said histograms include error bars.

13. The method of claim 11, wherein said step of processing further comprises at least one sub-step selected from the group consisting of:

(1) presenting at least one of said at least one item on a computer screen;

(2) printing at least one of said at least one item on a printer;

(3) plotting at least one of said at least one item on a plotter; and

(4) storing at least one of said at least one item on a data-storage device.